

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for adjusting beams in a wireless communication system comprising the steps of:

forming a basis beam;

listening for a transmission by a mobile station, wherein said transmission includes a packet including a header; and

forming a select beam to cover said mobile station, said select beam formed responsive to said header,

wherein an angle of arrival of said mobile station is determined from header information contained in said header, and wherein said forming step determines if said mobile station is covered by comparing said angle of arrival of said mobile station with angles covered by said basis beam.

2. (Original) The method according to claim 1, further comprising the step of: terminating said select beam when said mobile station is no longer transmitting.

3. (Original) The method according to claim 1, further comprising the steps of: determining antenna weights for said basis beam; and determining antenna weights for said select beam.

4. (Currently Amended) A method comprising the steps of:

determining when an entry for a station had been last updated in a table in a wireless access point; point, said wireless access point configured to form a basis beam to cover said station at least when said station is idle and configured to form a select beam to cover said station when said station is active;

determining if a time for said last update for said station is greater than a threshold;

listening for a transmission by said station;

updating said entry for said station responsive to every transmission by said station; and

updating a ~~basis~~ said basis beam based on said updated entry for said station.

5. (Original) The method according to claim 4, said updating step further comprising the step of:

sending survey packets to said station.

6. (Original) The method according to claim 4, wherein said table includes angle of arrival information.

7. (Original) The method according to claim 4, wherein said table includes angle of arrival information computed from synchronization information received in a signal from said station.

8. (Previously Presented) A method for adjusting beams comprising the steps of:

determining if a station is covered by a basis beam;

adjusting said basis beam to cover said station responsive to determining said station is not covered by said basis beam,

wherein an angle of arrival of said station is determined from header information contained in a packet received from said station and wherein said determining step determines if said station is covered by comparing said angle of arrival of said station with angles covered by said basis beam.

9-11. (Canceled).

12. (Currently Amended) A method for adjusting beams comprising the steps of:
decoding at an access point a first part of a transmitted packet to determine the angle of arrival of said transmitted packet as transmitted from a mobile station;

adjusting a basis beam to ensure coverage of said mobile station based on said angle of arrival; and arrival;

decoding a second part of a of the transmitted packet as received via a select beam; beam;
and

adjusting the select beam based on information in the second part of the transmitted packet,
wherein said decoding steps and said adjusting ~~step~~ steps are responsive to each transmitted packet received from said mobile station at said access point.

13. (Previously Presented) A system for adjusting beams in a wireless communication system comprising:

means for forming a basis beam;

means for listening for a transmission by a mobile station, said transmission including at least one packet including at least one header; and

means for forming a select beam to cover said mobile station based on said at least one header,

wherein an angle of arrival of said mobile station is determined from header information contained in said at least one header, and wherein said means for forming a basis beam includes determining if said mobile station is covered by comparing said angle of arrival of said mobile station with angles covered by said basis beam.

14. (Original) The system according to claim 13, further comprising:

means for terminating said select beam when said mobile station is no longer transmitting.

15. (Original) The system according to claim 13, further comprising:

means for determining antenna weights for said basis beam; and

means for determining antenna weights for said select beam.

16. (Currently Amended) A system comprising:

means for determining when an entry for a station had been last updated in a table in a wireless access point, said wireless access point configured to form a basis beam to cover said station at least when said station is idle and configured to form a select beam to cover said station when said station is active;~~point;~~

means for determining if a time for said last update for said station is greater than a threshold;

means for receiving a transmission by said station;

means for updating said entry for said station responsive to receiving every transmission by said station; and

means for updating ~~a basis~~ said basis beam based on said updated entry for said station.

17. (Original) The system according to claim 16, said means for updating further comprising:

means for sending survey packets to said station.

18. (Original) The system according to claim 16, wherein said table includes angle of arrival information.

19. (Original) The system according to claim 16, wherein said table includes angle of arrival information computed from synchronization information received in a signal from said station.

20. (Previously Presented) A system for adjusting beams comprising:
means for determining if a station is covered by a basis beam; and
means for adjusting said basis beam to cover said station,
wherein an angle of arrival of said station is determined from header information contained in a packet received from said station and wherein said means for determining determines if said station is covered by comparing said angle of arrival of said station with angles covered by said basis beam.

21-23. (Canceled).

24. (Currently Amended) A system for adjusting beams comprising:
a first means for decoding at an access point a first part of a transmitted packet to determine the angle of arrival of said transmitted packet as transmitted from a mobile station;
a first means for adjusting a basis beam to ensure coverage of said mobile station based on said angle of ~~arrival~~; and arrival;

a second means for decoding a second part of a of the transmitted packet as received via a select beam; and

a second means for adjusting the select beam based on information in the second part of the transmitted packet;

wherein said first decoding means, said second decoding means, said first adjusting means, and said adjusting means are responsive to each transmitted packet received from said mobile station at said access point.

25. (Currently Amended) An access point comprising:

an antenna array; array configured to output a select beam to cover an active mobile station and a basis beam to cover at least an idle mobile station;

one or more processors that receive packets from said antenna, said packets generated by mobile stations, said one or more processors configured to

decode ~~decoding~~ a first portion of said packets,

determine an ~~determining the~~ angle of arrival of said packets; ~~packets based on~~ information regarding said packets from said antenna array; and

~~outputting- output~~ antenna array weights to said antenna array to steer a select said select beam to cover an active mobile station of said mobile stations.

26. (Currently Amended) The access point according to claim 25, wherein said processor is further configured to output ~~further outputs~~ antenna array weights for adjusting a to adjust said basis beam generated by said antenna array; ~~array based on information from said packets.~~